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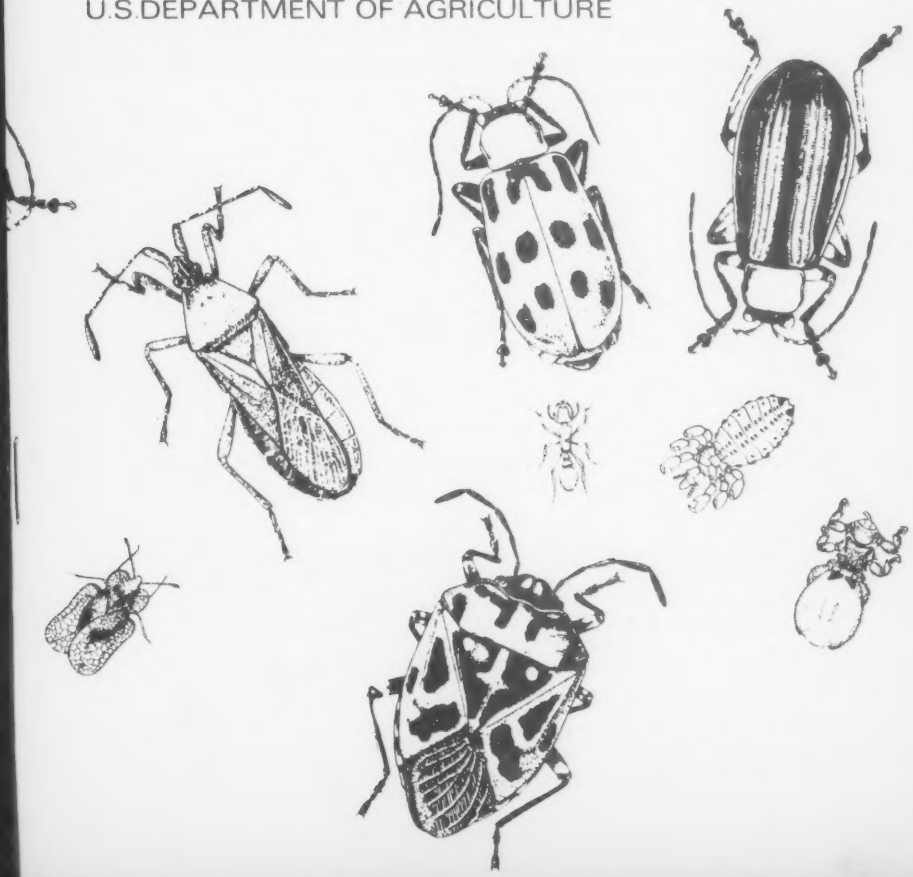

ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ARMYWORM damage widespread in Wisconsin and New York. Severe damage possible in Maine. (p. 657).

GREENBUG very severe in parts of Colorado, Texas, and Oklahoma. (p. 658).

POTATO LEAFHOPPER heavy on alfalfa in southern Wisconsin, widespread in Pennsylvania, and a major pest in New York. (p. 659).

LESSER CORNSTALK BORER adults heavy in Georgia and larvae heavy on peanuts in Oklahoma. (p. 663).

VARIEGATED CUTWORM heavy on potatoes in parts of Idaho, Colorado Wisconsin, Michigan, and New York. (p. 665).

Detection

New State records include SPOTTED ALFALFA APHID in Pennsylvania (p. 659) and a LEAFHOPPER in California (p. 668).

For new county records, see page 672.

Special Reports

Estimates of Damage by the European Corn Borer to Grain Corn in the United States in 1974. (pp. 677-678).

Reports in this issue are for week ending August 1 unless otherwise indicated.

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SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - NEW MEXICO - Defoliated young sorghum plantings in Luna County. (N.M. Coop. Rpt.). MINNESOTA - Scattered economic infestations in Aitkin, Pine, Mille Lacs, Carlton, and Chisago Counties. Major portion of outbreak on decline. Overall infestation more widespread than reported. Infested 50+ counties, covering virtually entire State, except for northeast corner. Acreage sprayed totaled well into hundreds of thousands, but many acres treated needlessly. (Minn. Pest Rpt.). WISCONSIN - Populations collapsed in nearly every area due to pupation, parasitism and predation, and chemical controls. Oats most adversely affected crop, 40-50 percent of grain lost in some fields. Larval control applied to several thousand acres of crops. Damage significant in Trempealeau, Dunn, Polk, Barron, Washburn, Sawyer, Rusk, Chippewa, Eau Claire, Jackson, Pepin, Wood, Lincoln, Marathon, Langlade, Shawano, Oconto, Marinette, Door, Kewaunee, and Green Lake Counties. (Wis. Ins. Sur.). OHIO - Damaged 10-40 percent of sweet corn in 3-leaf stage in Washington County. (Lewis).

NEW YORK - Armyworm damage severe by July 18 in 4 acres of sweet corn in Steuben County. Current populations damaged corn and oats statewide. Damage severe on no-till Broome County corn stand. Stripped leaves and heads in half of Steuben County oatfield. (Muka et al.). MAINE - Widespread on corn week of July 14. Damaged many oatfields in Aroostook County; treatments applied. Severe damage to small grains possible. (Gall).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Crop damage survey from Antioch, Contra Costa County, north to Red Bluff, Tehama County. Curly top infection heaviest at one percent in beetfield west of Woodland, Yolo County. Counts increased in northern Merced County to southern San Joaquin County. Mostly nymphs in second generation. Curly top ranged 20-40 percent (normal infection level) in beets in Antelope Valley, Los Angeles County. Averaged 22 leafhoppers per 10 sweeps of Russian-thistle throughout valley. (Cal. Coop. Rpt.). COLORADO - Ranged 0-100 per 100 sweeps in sugar beet fields of Arkansas Valley. (Schweissing).

CORN EARWORM (Heliothis zea) - OKLAHOMA - Ranged 4-5 per ear in Haskell County sweet corn. Averaged about one per row foot in most Marshall County peanuts, but ranged 6-8 per row foot in one field. Averaged 7 per 10 sweeps of Harmon County alfalfa. Averaged one per head in Caddo County grain sorghum. (Okla. Coop. Sur.). TEXAS - Decreased in Blacklands area past 7-10 days. Continued light in most north-central area sorghum. Moderate in McCulloch County. Light in Concho, Nolan, El Paso, Pecos, Reeves, Glasscock, Midland, and Martin Counties. (Turney et al.). Continued to damage sweet and field corn in Cottle and Knox Counties. (Boring). MISSISSIPPI - Infested half of corn ears in 6 Tallahatchie County fields week ending July 25. (Robinson). ALABAMA - Young larvae trace in 35 soybean fields in Mobile, Baldwin, and Wilcox Counties. Moths along fence line; some moths in fields. Catch of 25 adults in blacklight trap in southern Baldwin County July 28. (Harris et al.). MARYLAND - Flight activity continued to increase in all areas. Tip injury levels ranged 2-10 percent in process sweet corn on lower Eastern Shore. Damage in central production areas very light. Damage levels expected to increase very rapidly next 10 days. Mostly first and second instars. (U. Md., Ent. Dept.).

CORN LEAF APHID (Rhopalosiphum maidis) - MISSISSIPPI - Ranged 100-150 per sorghum plant on 10 percent of 50-acre field week ending July 25. (Robinson). TEXAS - Heavy on grain sorghum in Nolan County. (McWhorter). OKLAHOMA - Ranged 50-200 per grain sorghum plant in Cimarron County. Light in Texas and Jackson Counties. (Okla. Coop. Sur.). WISCONSIN - Very heavy on older corn with brown silks, 75 percent of plants have colonies of 500+ per plant. Younger plants less affected, but 500+ per plant on 10+ percent of plants in some fields in green silk. Heaviest in central counties. (Wis. Ins. Sur.). OHIO - Completely infested field of sweet corn in Washington County; each colony consisted of few to several hundred aphids. Lady beetle adults Hippodamia convergens (convergent lady beetle) and Coccinella novemnotata feeding on about half of colonies. (Lewis et al.).

GREENBUG (Schizaphis graminum) - ARIZONA - Treatments applied to several sorghum fields at Bowie and San Simon, Cochise County. (Ariz. Coop. Sur.). NEW MEXICO - Ranged from light in Union and Colfax Counties to heavy in Chaves and Eddy Counties. Sorghum treated past 14 days in Luna and Hidalgo Counties. Controls ineffective. (N.M. Coop. Rpt.). COLORADO - Increased on sorghum in Arkansas Valley, up to 600 per plant and damage to lower leaves evident. (Schweissing).

TEXAS - Greenbug generally increased on grain sorghum throughout Rolling Plains area. Moderate to heavy in Childress, Fisher, Jones, Knox, Motley, and Stonewall Counties. Some producers with heavier infestations applied controls. Heaviest on preboot to hard-dough stage. Heavy in Nolan County. Heavy isolated infestations in McCulloch County. Moderate to heavy in Glasscock, Upton, Reagan, Reeves, and Pecos Counties. Killed isolated fields of young sorghum in Glasscock County. Built up again following treatment. Many fields required second application. Beneficial insects had no effect. (McWhorter et al.).

OKLAHOMA - Greenbug heavy on Jackson County grain sorghum. Ranged 2,000-3,000 per plant on headed sorghum and up to 500 per leaf on 18-inch sorghum. Controls effective. Ranged 200-300 per plant in Harmon County. Averaged 1,000 per plant in 24-inch Payne County sorghum. Heavy in Pawnee County. Ranged 50-500 per plant in Cimarron County and 1,500-3,000 per plant in Texas County. Some control difficulty in Texas County. Small, scattered colonies on corn in some Texas County fields. Up to 5,000 per leaf in many fields in Custer, Washita, Beckham, and Caddo Counties. (Okla. Coop. Sur.).

ARKANSAS - Greenbug infestations light and scattered in Clay County. (Thomason). MISSOURI - Light on east-central area sorghum. Light to moderate on 3-29 percent of plants. Previously heavier in 3 of 5 fields. (Munson). IOWA - Infested several Audubon County sorghum fields, lower leaves dying; fields treated July 30. (DeWitt). SOUTH DAKOTA - Increased significantly on milo east of Missouri River. Infestations in Tripp County west of river very light for time of year, will probably become heavier next 14 days. Infested milo showed severe drought stress. (Kantack).

PICKLEWORM (Diaphania nitidalis) - GEORGIA - Heavy on late cucumbers and squash in Spalding County. (Dupress). TENNESSEE - Larvae damaged vine and fruit of squash plants in many central area locations. (Gordon).

POTATO LEAFHOPPER (Empoasca fabae) - MISSOURI - Light to moderate, 15-250 per 10 sweeps, on alfalfa in east-central and northeast areas. Stunted and yellowed plants in most dry fields. (Munson).

WISCONSIN - Potato leafhopper heavy on second-growth alfalfa in southern half of State with much variation among fields. Averages ranged 15-25 per sweep. Up to 50+ per sweep in southwest areas; injury evident in most second-growth fields, but severity variable, depending upon age of cutting, leafhopper population, and chemical treatments. Damage confused with boron deficiency, drought stress, and summer black stem disease. Some concern over new alfalfa seedlings in southwestern counties. One or fewer per 10 sweeps in untreated new seedings under oats in Grant and Crawford Counties. Most injury in new seedings due to summer black stem and drought. Ranged 2-6 per sweep of soybeans over most of southern and northwestern counties. On lower leaves of all plants. Counts varied on vegetables depending on control measures applied. Counts per sweep averaged under one in snap beans, lima beans, and wax beans in southern and east-central districts, averaged less than 3 on potatoes in central district, under one on navy and kidney beans in west-central district, and up to 7 in snap bean field in Pepin County. (Wis. Ins. Sur.).

OHIO - Potato leafhopper lighter on forage legumes in southeast counties than found earlier in other parts of State. Adult averages per sweep by county: Guernsey 1.0, Belmont 0.6, and Noble 0.7. (Lewis). PENNSYLVANIA - Continued increase on alfalfa statewide. Heaviest counts in southern and central counties. Adults per sweep: 13-16 in York and Franklin Counties and 0-6 in Wayne, Monroe, Erie, Crawford, and Butler Counties. Damage up to 25 percent where counts heavy. Over 300 adults per night in blacklight traps in southeast, central, and southwest counties. (Lilley et al.). NEW YORK - Still most important alfalfa pest statewide. Especially severe in central area. Heaviest in 35 years in Tompkins and Tioga Counties. Nymphs averaged one per sweep with severe stunting and yellowing in Dutchess County. Damage heavy on second-crop alfalfa in 2 Steuben County fields. Infestations very heavy on many newly established seedlings, second-growth alfalfa, and trefoil in Broome County. Prevalent where conditions dry in Oneida County. (Gyrisco et al.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Averaged 5 per 10 sweeps in Harmon County alfalfa field. (Okla. Coop. Sur.). WISCONSIN - Heavy in some alfalfa fields, particularly on sandy soils. Under 5 per sweep in most areas except in Central Sands where 70+ per sweep noted in Waushara County. Counts 25 per sweep in several Columbia and Marquette County fields and one per sweep in Dodge and Sheboygan Counties. (Wis. Ins. Sur.). PENNSYLVANIA - Apterae averages ranged 20-50 per 100 sweeps in alfalfa field near east Bangor, Northampton County. Collected by J.F. Stimmel and A.G. Wheeler July 9, 1975. Determined by J.F. Stimmel; confirmed by M.B. Stoetzel. This is a new State record. (Wheeler).

TOBACCO BUDWORM (Heliothis virescens) - MARYLAND - Damage light to moderate on southern area tobacco. (U. Md., Ent. Dept.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - MARYLAND - Egg mass counts remained between 5-30 per 100 corn plants on Eastern Shore. Process sweet corn fields sprayed twice to keep ear injury levels below 20 percent. (U. Md., Ent. Dept.). KENTUCKY - Larval activity high in most fields. (Barnett). MISSOURI - Infested corn plants 0-18 percent in east-central and northeast areas. Larvae 0-7 (mostly second instar) per plant. Most infestations very light. Adults still in fields; fresh eggs scarce. (Munson). MICHIGAN - Second-generation adults emerged. (Cress).

MINNESOTA - First reports of European corn borer emergence for season from southwest district; moths increased in light traps. (Minn. Pest Rpt.). WISCONSIN - Hot temperatures favored development. Blacklight trap catches increased greatly at most southern sites. Larvae mostly fourth and fifth instars, except near Lake Michigan where many third instars present. Pupae as far north as Pepin and Waushara Counties and as far east as Waldo, Sheboygan County, an area that does not ordinarily produce clear-cut second flights. Larvae increased in Lake Michigan area, with up to 35 percent of plants infested in few samples. Second-generation egg mass hatched in central area. Outlook for heavy, prolonged moth flight continues. (Wis. Ins. Sur.).

SOUTHWESTERN CORN BORER (Diatraea grandiosella) - TEXAS - Increased on corn in Hale County. Egg masses and young larvae on 30-40 percent of some plants. Some controls undertaken. (Latham).

FALL ARMYWORM (Spodoptera frugiperda) - GEORGIA - Feeding in corn whorls and light to heavy in sorghum whorls across State. (Suber). ALABAMA - Larvae, 1-10 per stalk, destroyed young corn in one to 30-acre fields in Bullock, Mobile, Coffee, Covington, and Marengo Counties and other southern counties. Lighter on prebloom grain sorghum in Wilcox and Baldwin Counties. New moth flights within 5-13 days expected to move into grasses and other hosts as far as northern border. (Hatchett et al.). OKLAHOMA - Infested 10-15 percent of young sorghum terminals in Jackson County. Moderate to heavy in Custer, Caddo, Washita, and Beckham Counties. (Okla. Coop. Sur.).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - KANSAS - Two moths caught in light trap in Stevens County near Courtland July 3, 1975. Collected and determined by K.O. Bell. This is a new county record. (Bell).

CORN ROOTWORMS (Diabrotica spp.) - MISSOURI - D. virgifera (western corn rootworm) and D. longicornis (northern corn rootworm) adults 3-41 per 10 corn plants in east-central and northeast area. (Munson). MINNESOTA - Diabrotica spp. pupation and emergence well underway. Two badly damaged fields in Olmsted County. Very hard crust of soil supported corn. (Minn. Pest Rpt.). WISCONSIN - Pupation and emergence continued. Diabrotica spp. adults very heavy, 25 per plant, in individual cornfields; silk damage in some fields. Lodging up to 80 percent in untreated Dane County plot; lodging in most fields less than 10 percent and

adults less than 4 per plant. Diabrotica virgifera in nearly every field as far east as Lake Michigan. D. longicornis appeared more numerous species in damaged Columbia County fields. (Wis. Ins. Sur.).

IOWA - Diabrotica spp. ranged 7-10 per ear on seed corn plants in O'Brien County. Cut silks in Tama and Marshall Counties. (DeWitt). OHIO - D. longicornis adults light in far southeastern counties July 29 and 30. Averaged only one per 25 plants in selected fields in Belmont, Guernsey, Noble, and Washington Counties. (Lewis). NEW YORK - New adults of D. longicornis on Tompkins County corn July 20. Rootworms averaged 2.4 per plant in untreated second-year corn in Seneca, Yates, Ontario, and Cayuga Counties. Lodging less than one percent. (Willson et al.).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Decreased on grain sorghum past 7-10 days in Blacklands area. Isolated infestations in Limestone County where controls applied. Continued light in most north-central area fields. Heavy in some Hill County fields. Ranged 1-15 small larvae per head. Heaviest on sorghum in soft-dough stage. (Hoelscher et al.).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Decreased on grain sorghum in south-central area. Continued very heavy with up to 30-35 adults per head on blooming sorghum. Controls applied to terrace channel areas and late-planted fields. Above treatment levels in most late-blooming fields in north-central area. Populations exploded in Hill and Ellis Counties. Infested sorghum in Fisher County past 2 weeks. Light in Concho and Nolan Counties. Isolated heavy infestations in McCulloch County. (Cole et al.). OKLAHOMA - Damaged 5 percent of early planted Caddo County grain sorghum. (Okla. Coop. Sur.).

BANKS GRASS MITE (Oligonychus pratensis) - OKLAHOMA - Small, scattered colonies in most Texas County corn. (Okla. Coop. Sur.). COLORADO - Increased on corn with hot, dry weather. Infested up to the tenth and twelfth leaf in Arkansas Valley and up to third leaf in some Weld County fields. (Hantsbarger, Schweissing).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - UTAH - Damage lighter than normal; many fields treated in Cache County. (Burtenshaw). COLORADO - Larvae decreased to 2 per 10 sweeps, adults averaged 2 per 10 sweeps in north-central area week ending July 25. (Hantsbarger). NORTH DAKOTA - Collected on alfalfa in rural areas of Ransom and LaMoure Counties by C.G. Scholl July 8, 1975. Determined by W.J. Brandvik. These are new county records. (Scholl).

PEA APHID (Acyrthosiphon pisum) - OKLAHOMA - Averaged 30 per 10 sweeps on Harmon County alfalfa. (Okla. Coop. Sur.). WISCONSIN - Declined on alfalfa past 2 periods due to marked increase in parasitism by braconid wasps. Predation by lady beetles and Nabis ferus (a damsel bug) heavy. (Wis. Ins. Sur.).

AN APHID (Acyrthosiphon sp., caraganae group) - CALIFORNIA - Taken on sweetclover at El Centro, Imperial County, April 24, 1975, by R.A. Flock and L. Pineda and on alfalfa at Wheatland, Yuba County, May 14 by D.L. Wilson. Determined by T. Kono. These are new county records. (Cal. Coop. Rpt.).

VARIEGATED CUTWORM (Peridroma saucia) - IOWA - Larvae 5-10 per square foot preventing alfalfa regrowth in Woodbury and Harrison Counties. (DeWitt).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - PENNSYLVANIA - Adult pinhole damage on new growth of third-crop alfalfa. Adults per sweep by county: Wayne and Monroe 10-15; York, Washington, and Franklin 0-2. Mines 2-5 per plant in heavier counts. (Snelbaker et al.).

SOYBEANS

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Adults and larvae fed on 25-35 percent of soybean leaves in 3 fields of 70+ acres in Mobile County. Controls applied. (Harris et al.). MARYLAND - Second-generation adults continued to emerge throughout Eastern Shore and southern areas. Egg laying continued, but larval damage remained light. Pest not yet recovered from heavy rains of mid-June. Heaviest damage (less than 10 percent of total acreage) approached 30-percent defoliation level. Most injury caused by new adults. (U. Md., Ent. Dept.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSISSIPPI - Adults 0-10 per 25 sweeps in Harrison, Covington, Lauderdale, Rankin, Bolivar, Panola, and Oktibbeha Counties week ending July 25. (Robinson). Currently, adults per 25 sweeps by county: Bolivar, Sunflower, Washington, Holmes, Carroll, Rankin, and Montgomery averaged one; Prentiss and Lee ranged 2-5. (Harrison).

LOCUST LEAFMINER (Xenochalepus dorsalis) - VIRGINIA - Adults collected July 17 damaging soybeans near wooded area heavily populated with locust trees. Adults taken on Stafford County soybeans July 22. Determined by W.A. Allen. Feeding on soybeans near wooded areas in King George County July 16. (Surles).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - GEORGIA - Moderate to heavy in Tift County field week ending July 26; treatments needed. (Suber). ALABAMA - Second-generation larvae appeared in several soybean fields in Mobile and Baldwin Counties. Fully grown larvae and moths light to heavy with 10 per 10 square yards in Mobile County field. No economic damage. (Vickery et al.).

SOYBEAN CYST NEMATODE (Heterodera glycines) - TENNESSEE - Heavy on soybeans at new locations in Lawrence County. Heavy on soybeans in Coffee County. Collected by J.L. Cagle July 23, 1975. Determined by R.E. Morrison. Coffee County is a new record. (Gordon).

PEANUTS

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - GEORGIA - Light to very heavy in south-central and southwest areas week ending July 26. Some controls ineffective probably due to heavy rainfall. Currently light to heavy from central peanut belt to western and southern State borders. (French).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Moths heavy throughout south-central and southwest areas week ending July 26. (French). OKLAHOMA - Second-generation larval infestations up to 53 percent on Marshall County peanuts. (Okla. Coop. Sur.).

REDNECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Terminal infestations averaged 30 percent on peanuts in Marshall and Harmon Counties. Light in Haskell County. (Okla. Coop. Sur.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Continued increase on older cotton throughout Rolling Plains. Light in most counties. Square damage 15-25 percent in some fields in Baylor and Wichita Counties. Damage heavier, 25-60 percent, in several fields in Knox and Wilbarger Counties and up to 90 percent in some older fields in Jones County. Increased in south-central area. Some late cotton treated. Next generation about to start. Largest number trapped in Rio Grande Valley since traps started in April; ranged 0-34 (averaged 0-11) per trap. Many adults in all fields fed on remaining squares, blooms, and unopened bolls. Complete square damage in many fields but noneconomic. Increased along creek and river bottoms where overwintered adults heavy. Economic in several fields in Bell and Coryell Counties. Continued to hatch in some fields in Collin, Hunt, and Tarrant Counties. Punctured squares 8-92 percent. Heaviest in fields without proper overwintered control. Generally light, but continued to increase in Hill and Ellis Counties near overwintering areas; sudden increase is expected within next 2 periods. Light in Nolan County. Moderate to heavy in Concho and McCulloch Counties. (Cole et al.). OKLAHOMA - Punctured squares ranged 15-20 percent on cotton in Jackson, Tillman, Greer, Harmon, and Kiowa Counties; up to 60 percent in some fields. Very few live weevils in most fields. Averaged 40 percent in Caddo County. (Okla. Coop. Sur.).

ALABAMA - Second and overlapping generations of boll weevil punctured squares statewide. Infestations 7-90 (averages ranged 15-25) percent depending on control efforts. Unfavorable weather hindered controls. (Lowery et al.). GEORGIA - Infestations generally increased week ending July 26. Up to 68-percent punctured squares in southern area. (Womack). Currently, very heavy in Calhoun County cotton field. (King, French). SOUTH CAROLINA - Statewide problem, heaviest in Piedmont counties, week of July 25. Daily rains past 14 days hindered control and allowed increase. Annual migration in southeastern counties expected week of July 28. (Sparks). TENNESSEE - Damage continued serious in western area. Controls satisfactory. Overlapping

cotton made favorable conditions for second-generation boll weevil "hatch-out" due August 10. Heavy migration expected. Punctured squares 10-60 (averaged 30) percent. Controls necessary. (Locke). Punctured squares 10-50 percent in central area. (Cagle).

BOLLWORMS (Heliothis spp.) - ARIZONA - Heaviest range of H. zea (bollworm) per 100 terminals: 1-20 eggs in Pinal, Maricopa, Graham, and Yuma Counties; 1-5 larvae in all above counties except Yuma. (Ariz. Coop. Sur.). TEXAS - H. zea light in Kent, Knox, Wichita, and Wilbarger Counties. Eggs and small larvae found in many cases. Heavy egg laying in lush fields in south-central area. Larvae 93 percent H. virescens (tobacco budworm) in cotton field in Fort Bend County. Highs of 48 percent H. zea eggs this period, compared with over 120 percent last period. High of 35 larvae per 100 terminals in one field. Infested fewer fields because many fields defoliated or treated. Eggs decreased past 2-3 days in Blacklands area. Heavier on late-planted cotton with much tender growth. Beneficial insects effective here and in untreated north-central area fields. Larvae 40 per 100 plants in treated field in Collin County and 4 per 100 plants in nearby untreated field. More larvae expected next period than found this period in north-central area. Egg laying decreased in Hill and Ellis Counties. Late-planted cotton had more eggs. This generation should complete life cycle this period. Next significant egg laying after first week in August. Bollworms light in Concho County. Light to medium in Reeves and Pecos Counties; eggs ranged 2-60 percent across area. Moderate to heavy in Glasscock, Reagan, Upton, and Midland Counties. Ranged 10-60 per 100 plants in isolated fields. Egg laying decreased across Trans-Pecos area. (Cole et al.).

OKLAHOMA - H. zea eggs ranged 5-14 per 100 terminals, larvae 5-10 per 100 terminals, and damaged squares ranged 5-14 percent in Jackson, Harmon, Greer, Tillman, and Kiowa Counties. One Jackson County field averaged 10,000 live larvae per acre with some larvae dead, apparently of virus disease. Larvae averaged 15 per 100 terminals in Caddo County. Moderate to heavy in Custer, Washita, and Beckham Counties. Heavy in Grady County. (Okla. Coop. Sur.).

ALABAMA - Flights increased rapidly in southern area, mostly H. zea. Egg laying and small larvae increased in Wilcox and other southern counties. Controls hindered by rain and usual seasonal moth increase will probably cause major problem in much of cotton. (Harris et al.). GEORGIA - H. zea eggs 2-45 (averaged about 20) per 100 terminals and larvae 1-25 (averaged about 6) per 100 terminals in southern area week ending July 26. (Womack). SOUTH CAROLINA - Heliothis spp. heavy; eggs 30-70 per 100 plants in many counties and H. zea hatching in unprotected fields week of July 25. (Sparks). TENNESSEE - Not general in west area, but heavy in few cotton fields. Second generation in all fields. Controls necessary where counts heavy. Larvae 1-15 per 100 terminals in central area. (Cagle).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Light on cotton in Baylor, Cottle, and Kent Counties. Moderate to heavy in Knox, Wichita, and Wilbarger Counties. Some infestations exceeded average of one fleahopper per terminal. Very few squares present where damage excessive. Numbers variable throughout north-central area. Remained heavy in Hill and Ellis Counties on cotton

planted in June, up to 1-3 fleahoppers in every terminal. Majority of June cotton has no square set, due to fleahopper and or bollworm infestations. Fleahopper light in Concho and Nolan Counties. Remained moderate to heavy in Pecos and Reeves Counties. Remained light to heavy across Pecos Valley and El Paso Valley areas. (Boring et al.). OKLAHOMA - Light to moderate, 5-20 per 100 terminals, on cotton in southwest counties. (Okla. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Heaviest range of damaged squares per 100 squares by county: Pinal 26+ in 41 fields, Maricopa 11-25 in 32 fields, Graham 1-10 in 256 fields, and Yuma 11-25 in one field. (Ariz. Coop. Sur.). TEXAS - Remained moderate to heavy in Reeves and Pecos Counties. Remained light to heavy across Pecos Valley and El Paso Valley areas. Controls applied in Pecos Valley. (Bagley, Neeb).

COTTON APHID (Aphis gossypii) - OKLAHOMA - Very heavy in Jackson County cotton field; light in most fields. Scattered heavy infestations in Washita and Caddo Counties. (Okla. Coop. Sur.).

TOBACCO

NOCTUID MOTHS (Heliothis spp.) - TENNESSEE - Fields at or above control levels: 20 of 21 fields in Franklin and Lincoln Counties (Cagle); one of 22 fields in Macon, Smith, Sumner, and Trousdale Counties, up to 100 larvae per acre (Gregory).

GREEN PEACH APHID (Myzus persicae) - KENTUCKY - Increased rapidly; light to heavy in most tobacco fields. (Barnett).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homocosoma electellum) - TEXAS - Adults light on sunflower fields in Hale County. Very light in Pecos Valley area. (Latham, Neeb). NEW MEXICO - Heavy losses to commercial sunflower at Clovis, Curry County. (N.M. Coop. Rpt.). OKLAHOMA - Very heavy (up to 20 larvae per head in 90 percent of heads) in some sunflower fields in Harmon and Jackson Counties; 2 fields treated 3 times. Most larvae near maturity and some pupae found. (Okla. Coop. Sur.).

SUNFLOWER BEETLE (Zygogramma exclamationis) - NEW MEXICO - Heavy populations defoliated sunflowers along U.S. Highway 64 in Colfax County. Recovered from commercial sunflower planting in Chaves County. (N.M. Coop. Rpt.).

POTATOES, TOMATOES, PEPPERS

VARIEGATED CUTWORM (Peridroma saucia) - IDAHO - Damaged potatoes, larvae 10-50 per plant, in 160 acres at Fort Hall, Bancock County. (Gardner). COLORADO - Heavy in many Weld County potato fields. Larvae averaged 60 per 10 feet of row in some fields. (Hantsbarger). WISCONSIN - Principal species in many commercial potato fields and some gardens in State. (Wis. Ins. Sur.). MICHIGAN - Severe on northern area potatoes. (Lamkin). NEW YORK - Damaged most major potato areas, including Steuben, Wayne, and Genesee Counties. (Tingey, July 20).

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Second-brood larvae on Sussex County sweet peppers with about 5 percent of untreated peppers infested with second and third instars. Adults still heavy, 25+ per night in blacklight trap collections. (Burbutis). OHIO - Sharp rise in adult emergence and egg laying on peppers. (Rings).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - IDAHO - Later than normal in Fremont County. Preplant treatments ineffective in gardens. Feeding heavy on tomatoes and eggplants in gardens in Canyon, Latah, and Twin Falls Counties. (Homan et al.).

GREEN PEACH APHID (Myzus persicae) - OREGON - Still very heavy on potatoes at Nyssa and Adrian, Malheur County. (Burr). WASHINGTON - Trap pan counts up to 399 per trap in Grant and Adams Counties July 17. (Wash. State Potato Commission). COLORADO - Prevalent in many Weld County potato fields; some controls applied. (Hantsbarger). RHODE ISLAND - Continued increase in Washington County in spite of treatments week ending July 25. (Partyka).

POTATO APHID (Macrosiphum euphorbiae) - GEORGIA - Heavy on tomatoes in Carroll County garden. (Dewberry, Harris). WISCONSIN - Averaged 25 per leaflet in potato field near Plainfield, Waushara County. In garden planting of potatoes in Eau Claire, Eau Claire County. (Wis. Ins. Sur.).

BEANS AND PEAS

MEXICAN BEAN BEETLE (Epilachna varivestis) - OHIO - Larvae up to 12 (averaged 4) per plant on beans in Washington County truck farms. All stages present. (Lewis).

COLE CROPS

IMPORTED CABBAGEWORM (Pieris rapae) - OHIO - Damage light to moderate on cabbage in Washington County. (Lewis). WISCONSIN - All stages on cabbage statewide. Larvae numerous on cabbage in Columbia and Washington Counties. (Wis. Ins. Sur.).

CUCURBITS

SQUASH BUG (Anasa tristis) - TEXAS - Infested gardens in Baylor, Cottle, Foard, Knox, Wilbarger, and Young Counties. Continued problem in north-central area. Moderate to heavy in Concho, Callahan, McCulloch, and Sterling Counties. (Turney et al.).

MELON APHID (Aphis gossypii) - OKLAHOMA - Moderate to heavy on watermelons in Comanche County and on watermelons and cantaloups in Caddo and Washita Counties. (Okla. Coop. Sur.).

GENERAL VEGETABLES

ASPARAGUS BEETLE (Crioceris asparagi) - CALIFORNIA - Adults moderate to heavy on asparagus at El Cajon, San Diego County. (Cal. Coop. Rpt.).

BLACK SWALLOWTAIL (Papilio polyxenes asterius) - SOUTH CAROLINA - Larvae taken on parsley in Edgefield County by H. Miller July 9, 1975. Determined by D.K. Pollet. This is a new county record. (McCaskill).

DECIDUOUS FRUITS AND NUTS

CODLING MOTH (Laspeyresia pomonella) - WASHINGTON - Pheromone trap catch results by county: North-central area - 0-31 week ending July 26, Whitman - averaged 7.3 per trap week ending July 26, Yakima - 0-91 week ending July 28, Grant and Adams at Royal Slope - 198 and outside Royal Slope - 0-39. (Jackson et al.). MICHIGAN - Pheromone trap catches increased as second-generation emergence continued. (Olsen).

OBLIQUEBANDED LEAFROLLER (Choristoneura rosaceana) - NEW YORK - Significant infestations in increasing number of apple orchards, especially in Lake Ontario fruit belt. Species now considered potential pest. (Brann).

GREEN JUNE BEETLE (Cotinis nitida) - OKLAHOMA - Damage heavy to ripe peaches and plums in Major County and to peaches in Kiowa, Caddo, Washita, Custer, and Beckham Counties. (Okla. Coop. Sur.).

PLUM CURCULIO (Conotrachelus nenuphar) - TEXAS - Heavy on Hays County peaches. (Stewart).

TEXAS LEAFCUTTING ANT (Atta texana) - TEXAS - Continued to inflict heavy damage on pecan, plum, and peach trees in certain areas of Uvalde County. (Stewart).

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Emergence remained unusually high. Catches by county: Hennepin 96, Brown 42, Faribault 9, Ramsey 100-200. (Minn. Pest Rpt.).

ROSY APPLE APHID (Dysaphis plantaginea) - SOUTH CAROLINA - Taken from apples in Chester County by D.C. Wylie July 10, 1975. Determined by D.K. Pollet. This is a new county record. (McCaskill).

EUROPEAN RED MITE (Panonychus ulmi) - MICHIGAN - Built up rapidly in many blocks across State. Some predators moved into trees. Biological control achieved in several orchards. (Olsen).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Light on pecans in Lee County and heavy on untreated pecans in Guadalupe County. Infested Bell County pecans. Moderate on pecans in Concho and Callahan Counties; light in Nolan County; heavy in McCulloch County. Resumed activity on pecan trees in many counties in Uvalde area. Defoliated Hays County pecans. (Cole et al.). MISSISSIPPI - Larvae heavy in pecans in many areas, heaviest infestation 10-15 webs per tree week ending July 25. (Robinson). ALABAMA - Broods ranged 5-30 in many pecan trees and other nearby host trees in all parts of Mobile and Baldwin Counties. Webs completely covered some large trees. Lighter in Escambia, Monroe, Wilcox, Bullock, and other southern counties. (Golf et al.).

PECAN NUT CASEBEARER (Acrobasis nuxivorella) - TEXAS - Moderate in Concho and Callahan Counties. Second generation infested pecans in some areas of Limestone, Hill, Navarro, and Bell Counties. Scattered and light to moderate. Some treatment for second generation. Heavy counts damaged pecans in Roaring Springs, Motley County. Light on pecans in Upton and Ward Counties. (Hoelscher et al.).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - Very heavy and devastating on Bell County pecans. On pecan trees in Milam and Guadalupe Counties. Defoliated Hays County pecans. Light in Pecos County pecans. (Stewart et al.).

PECAN WEEVIL (Curculio caryae) - TEXAS - Moderate on McCulloch County pecans. (McWhorter). GEORGIA - One female and 2 males in emergence trap in Pike County. About 200 adults collected in 800 emergence traps, still relatively light with some damage from adult feeding in Peach County. (Dupree, Payne).

BLACK PECAN APHID (Tinocallis caryaefoliae) - TEXAS - Very heavy on Hamilton County pecans. Damage and shedding of many leaves from some large native pecan trees. Light in McCulloch County. Light to moderate on isolated pecan trees in Brewster and Jeff Davis Counties. (McWhorter et al.).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - COLORADO - Damaged spruce in Este Park area, Larimer County, week ending July 25. (Hantsbarger).

SPRUCE SPIDER MITE (Oligonychus ununguis) - OHIO - Built up throughout northeast area. Hot, dry weather favored growth and reproduction. (Balderston). Light to moderate on nursery planting of Canadian hemlock in Lake County. Mottled foliage; some severe yellowing. (Endebrock, Wells).

RUSTY TUSSOCK MOTH (Orgyia antiqua) - OREGON - Heavy on pin oak (spotty on other tree species) along street at Portland, Multnomah County. Seriously defoliated some trees. Females predominant and egg laying about completed. Some larvae fully grown. Cocoons, with and without egg masses, very heavy on tree trunks. Second-generation larval hatch expected in 7-14 days. (Westcott, Nicolaison).

FALL WEBWORM (Hyphantria cunea) - TEXAS - Still light on ornamental trees in Upton, Ward, and Brewster Counties. Light to moderate in Nolan, McCulloch, and Callahan Counties. (Neeb, McWhorter). WISCONSIN - Noticeable on many tree species in southern half of State. (Wis. Ins. Sur.).

ELM LEAF BEETLE (Pyrrhalta luteola) - SOUTH CAROLINA - Taken from elms in Dorchester County July 24, 1975, by J.L. Gowdy. Determined by D.K. Pollet. This is a new county record. (McCaskill). TEXAS - Continued to damage elms in north-central area. Light in Sterling and Concho Counties. Moderate to heavy on elms in Upton, Ward, Pecos, Reeves, Glasscock, Brewster, Jeff Davis, and Culberson Counties. (Turney, Neeb).

LOCUST LEAFMINER (Xenochalepus dorsalis) - MARYLAND - Severe damage to locust trees continued in all southern counties. Damage appears heaviest of past several years. (U. Md., Ent. Dept.).

A LEAFHOPPER (Japananus hyalinus) - CALIFORNIA - Specimens collected from maple tree at Fresno, Fresno County, by W. Kelzer and D. MacMillan June 16, 1975. Determined by R. Gill; confirmed by J.P. Kramer. This is a new State record. (Cal. Coop. Rpt.).

OBSCURE SCALE (Melanaspis obscura) - SOUTH CAROLINA - Taken from maple in Colleton County July 8, 1975, by J.R. White. Determined by K. Pollet. This is a new county record. (McCaskill).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 273 cases reported from continental U.S. July 13-19 as follows: Texas 257, New Mexico 6, Arizona 10. Total of 295 cases confirmed in portion of Barrier Zone in Republic of Mexico. Total of 177 cases reported in Mexico south of Barrier Zone. Number of sterile flies released this period totaled 163,832,300 as follows: Texas 153,207,800; New Mexico 3,018,600; Arizona 7,605,900. Total of 14,904,900 sterile flies released within Barrier of Mexico and 2,000,000 released south of barrier. (Vet. Serv.).

HORN FLY (Haematobia irritans) - TEXAS - Heavy on Knox County cattle. Expected to increase in north-central area. Light to moderate on cattle in Glasscock, Ward, Upton, Reagan, and Martin Counties. Moderate to heavy on cattle in Brewster, Jeff Davis, Reeves, and Crockett Counties. Moderate to heavy on cattle in McCulloch, Nolan, Concho, Callahan, and Sterling Counties. Light to moderate on sheep and goats in Concho, Sterling, McCulloch, and Nolan Counties. (Boring et al.). OKLAHOMA - Averaged 750 per head on cows and 700 per head on yearlings in Payne County. Ranged 500-600 per head on cows and 300-400 per head on yearlings in Ellis County. Moderate to heavy in Comanche County. (Okla. Coop. Sur.). ARKANSAS - Infestations very light in some herds and very heavy in others depending on extent of control measures applied. (Boyer). MISSISSIPPI - Averaged 15 per cow in 40 head in Yalobusha County; 150 per cow in 100 head in Oktibbeha and Noxubee Counties. (Robinson).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Much lighter on pastured cattle week ending July 25 than previous week. Averaged 9 per face on 10 head in herd of 50 beef cattle in Oktibbeha County. Averaged 6 per head in one Yalobusha County herd. Adults currently averaged 4 per face in Oktibbeha County and 8 per face on 40 head in Yalobusha County. (Robinson). ARKANSAS - Collected from cattle July 21-24 near Searcy, White County; Conway, Faulkner County; Oppelo, Conway County; Dardanelle, Yell County; Clarksville, Johnson County; and Rudy, Crawford County. Taken from cattle and horses July 28-31 near Lake Village, Chicot County; Hamburg, Ashley County; Monticello, Drew County; McGehee, Desha County; Pine Bluff, Jefferson County; Sheridan, Grant County. All collections by W.P. Boyer. Determinations by E.P. Rouse. All are new county records. (Boyer). KENTUCKY - Adults averaged 45 per animal at one Fayette County location and ranged 20-25 at second location. (Knapp). MARYLAND - Annoying, 40-60 per head on most dairy and beef herds in central area. (U. Md., Ent. Dept.). OHIO - Heavy on cattle in Tuscarawas County, partly responsible for high incidence of pink eye disease in one herd there. (Lyon).

MOSQUITOES - RHODE ISLAND - Aedes sollicitans heaviest in at least 5 years in Washington and Newport Counties week ending July 25. (Relli). WISCONSIN - Absence of appreciable rainfall in July reduced mosquito problem in all areas. (Wis. Ins. Sur.). MINNESOTA - Hot, dry weather reduced numbers in all types of

collections during past week in Minneapolis and St. Paul. Aedes vexans predominant in trap and bite collections. Culex tarsalis comprised 14 percent of trap collections. No human cases of western equine encephalitis in previously flooded areas of Red River Valley where C. tarsalis very abundant. Some 30 municipalities in Norman, Clay, and Wilkin Counties fogged with controls every 2-3 days for 10 days to reduce C. tarsalis populations. (Minn. Pest Rpt.).

GULF COAST EAR TICK (Amblyomma maculatum) - TEXAS - Discovered on cattle near Batesville, Zavala County. Heavy on Hays County cattle. (Stewart).

BENEFICIAL INSECTS

A BRACONID WASP (Microctonus colesi) - OHIO - Reared from Hypera postica (alfalfa weevil) adults collected in Delaware County, April 26, 1975, and Union County April 29, 1975. Collections and determinations by D.R. Lewis. These are new county records. M. colesi now believed to be present statewide. (Flessel).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GOLDEN NEMATODE (Heterodera rostochiensis) - NEW YORK - Collected from potato field in Savannah Township, Wayne County, by C.H. Clift June 28, 1974. Determined by I. Granek and A.M. Golden. This is a new county record. (PPQ).

GRASSHOPPERS - UTAH - Total of 10,368 acres of rangeland treated in Hill Creek and Willow Creek areas of Uintah County July 15-17. Some gardens and foothill alfalfa in Cache County currently infested as grasshoppers move from vacant lots and roadsides. (Stephens, Knowlton). MONTANA - Ranged 15-20 per square yard on 150,000 acres of Stillwater County rangeland week of July 25. Predominant species Melanoplus sanguinipes, M. femurrubrum, and M. bivittatus. All instars present, majority in first to third instar. Adults (20 percent) 10+ per square yard on 300,000 acres of rangeland in Big Horn County. Nymphs about 30-50, mainly Melanoplus spp., per square yard in small pockets of 100-1,000 acres of mountainous range in Gallatin County. Acreage may exceed 50,000 acres. (Pratt).

GYPSY MOTH (Porthetria dispar) - First time males found for county in following 2 States. VIRGINIA - One trapped at Williamsburg, York County, July 23. OHIO - Two trapped at Macksburg, Washington County, July 22. (PPQ). MICHIGAN - First catch of year, one male, July 24 in Union Township, Isabella County. (Moore). RHODE ISLAND - Egg laying noted in Providence County, total of 435 acres noticeably defoliated to July 22. (Relli).

JAPANESE BEETLE (Popillia japonica) - GEORGIA - Trapped for first time in Atlanta area, Fulton County, May 29, 1975. (PPQ). TENNESSEE - Infestation covered eastern half of Polk County; garden and truck crops damaged. (Teasley). OHIO - Silk feeding in all fields surveyed in southeast counties. Up to 5 adults per ear on 4-25 percent of corn. (Lewis). PENNSYLVANIA - Adults heavily defoliated sassafrass and wild cherry trees in Chestnut Hill and Ross, Monroe County, on July 23. (Sporer). Adults per 10 sweeps of alfalfa: 18 at Shippensburg, Franklin County, July 22: 14 at Mercersburg, Franklin County July 23: 18 at York Haven,

York County, July 25. (Snelbaker). MAINE - Large swarm of Japanese beetles at Portland, Cumberland County. One major infestation covered at least 0.5 acre of golf course turf and many similar acres elsewhere. Moderate feeding damage on elm, alder, willow, cherry, and maple at Auburn, Androscoggin County. (Gall).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - Single fly trapped on grounds of motel at San Ysidro, San Diego County, adjacent to international line by P. Jones July 21, 1975. Determined nonsterile by M. Wasbauer. (Cal. Coop. Rpt.).

MORMON CRICKET (Anabrus simplex) - IDAHO - Damaged alfalfa and winter wheat; several thousand acres of cropland treated. Heaviest in Deep Creek range of hills with populations moving into Arbon and Rockland areas of Power County. (Schow).

PINK BOLLWORM (Pectinophora gossypiella) - ARKANSAS - Adults trapped at Keiser, Mississippi County, July 24 and 28. LOUISIANA - Trapped at Alexandria, Rapides Parish, July 17, and southwest Gilliam, Caddo Parish, July 24. (PPQ). TEXAS - Remained light in Pecos and Reeves Counties. Light in isolated fields in Glasscock, Reagan, and Upton Counties. (Bagley, Neeb). ARIZONA - Heaviest range of infested bolls per 100 bolls by county: Pinal 6-15 in 3 fields, Maricopa 6-15 in 3 fields, Graham 1-5 in 27 fields, and Yuma 25+ in 13 fields. (Ariz. Coop. Sur.).

HAWAII INSECT REPORT

Forage Legumes - Over 50 nymphs and adults (apterae and alates) of SPOTTED ALFALFA APHID (Therioaphis maculata) collected on only host in area, Medicago lupulina (black medic) at Hickam Air Force Base, Oahu. Infestations confined to original area of first discovery. Delineation surveys will continue. (Beardsley et al.).

Households and Structures - Large colony of FORMOSAN SUBTERRANEAN TERMITE (Coptotermes formosanus) infested utility pole at Kipa, Molokai, by July 25. Workers, soldiers, and alates present. Extensive damage. Confirms earlier report (October 1967) of establishment on Molokai. Recorded from all major islands except Lanai. (Lai et al.).

Fruits and Ornamentals - AN ARMORED SCALE (Pseudaulacaspis cockerelli) moderate to heavy on oleander at Hickam Air Force Base, Kapahulu, and Kaimuki, Oahu. Exceeded 30 scales per leaf. Generally confined to older leaves. (Sanidad, Mau).

Beneficial Insects - Eleven adults of a TACHINA FLY (Eucelatoria sp. near armigera) emerged from 90 Melipotis indomita (a noctuid moth) larvae collected from kiawe trees (Prosopis pallida) at Hickam Air Force Base. Parasitism about 12 percent. Many empty pupal cases of a BRACONID WASP.(Meteorus laphygmae) on trees. Four adults emerged from Melipotis larvae. (Teramoto).

DETECTION

New State Records - A LEAFHOPPER (Japananus hyalinus) - CALIFORNIA - Fresno County. (p. 668). SPOTTED ALFALFA APHID (Therioaphis maculata) - PENNSYLVANIA - Northampton County. (p. 659).

New County Records - ALFALFA WEEVIL (Hypera postica) NORTH DAKOTA - Ransom, LaMoure (p. 661). AN APHID (Acyrthosiphon sp., caraganae group) CALIFORNIA - Yuba, Imperial (p. 662). BLACK SWALLOWTAIL (Papilio polyxenes asterius) SOUTH CAROLINA - Edgefield (p. 666). A BRACONID WASP (Microctonus colesi) OHIO - Delaware, Union (p. 670). ELM LEAF BEETLE (Pyrrhalta luteola) SOUTH CAROLINA - Dorchester (p. 668). FACE FLY (Musca autumnalis) ARKANSAS - White, Faulkner, Conway, Yell, Johnson, Crawford, Chicot, Ashley, Drew, Desha, Jefferson, Grant (p. 669). GOLDEN NEMATODE (Heterodera rostochiensis) NEW YORK - Wayne (p. 670). OBSCURE SCALE (Melanaspis obscura) SOUTH CAROLINA - Colleton (p. 669). ROSY APPLE APHID (Dysaphis plantaginea) SOUTH CAROLINA - Chester (p. 667). SOYBEAN CYST NEMATODE (Heterodera glycines) TENNESSEE - Coffee (p. 662). WESTERN BEAN CUTWORM (Loxagrotis albicosta) KANSAS - Stevens (p. 660).

CORRECTIONS

CEIR 25(27):559 - "SESIID MOTHS ... Paranthrene tricincta ..." should read "Paranthrene tabaniformis ..." Determined this species by T.D. Eichlin. (Purrington, Boggs).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = Blacklight, F = Incandescent, MV = Mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (salt marsh caterpillar)	Euxoa auxiliaris (army cutworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Mamestra quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																						
Mesa 7/21-27			BL	1		4			7					7		3		321		9	11	
COLORADO																						
Denver 7/21-28			BL	4			1		4													
INDIANA (Counties)																						
LaPorte 7/19-25			BL	4	5										2	25	27				2	
Tippecanoe 7/19-25			BL	1	2											4	19				1	
KENTUCKY (Counties)																						
Caldwell 7/29			BL	19										7		10						
Fayette 7/29-31			BL	4												2	15			2		
MICHIGAN (Counties)																						
Lenawee 7/22-28			BL	112																		
Oceana 7/13-27			2BL	184									23	7	19	186	94 178			16 11	8 14	
MINNESOTA																						
Fergus Falls 7/24-30			BL														6					
MISSISSIPPI																						
Stoneville 7/25-31	72-91	1.56	2BL	17	8		4	45	36							5	7			83		
NEBRASKA																						
Scottsbluff 7/26-8/1			BL	1		3										21	5					
NEW JERSEY																						
Seabrook 7/23-29			BL	22					4				3		64		155		2		6	
Vineland 7/23-29			BL	25					3				1		22		76				1	
NORTH DAKOTA																						
Bismarck 7/18, 23, 24, 26			BL	2							59						11					
Bottineau 7/17, 21, 24			BL								5						3					
OHIO																						
Wooster 7/26-8/1			3BL	57		4									628	18	184		12	15	1	

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL - Blacklight; I - Incandescent; MV - mercury vapor; O - other)	Agrotis ipsilon (black cutworm)	Mythimna unipuncta (armyworm caterpillar)	Bunea auxiliaris (army cutworm)	Peridroma saucia (pearly cutworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Paratrea plebeja (corn borer)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
OREGON																								
Keizer 7/24-30			BL															1						
Mt. Angel 7/24-30			BL															1						
PENNSYLVANIA (Districts)																								
Central 7/25-31			9BL	21						8						14	5	47		1	5			
South East 7/25-31			9BL	19	3					1						53	2	133			15			
SOUTH DAKOTA																								
Brookings 7/24-30			BL				4									12	87	16				2		
VIRGINIA																								
Blacksburg 7/25-31			BL	2					4						7	13	18	29		15	60			
WEST VIRGINIA																								
Monongalia 7/29			2BL	7												13	4	10				4		
Randolph 7/29			BL	8	8										1	11	7	36			21	5		
WISCONSIN																								
Lancaster 7/24-30			BL	1												33	18	10						
Mazomanie 7/24-30			BL	4												53	3	2						

WEATHER OF THE WEEK ENDING AUGUST 3

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Contrasts in precipitation and temperature were key features of the week's weather picture. A tropical depression favored the already saturated Atlantic and gulf coast areas with the bulk of heavy rainfall but scarcely touched the parched Plains areas. The eastern third of the Nation, particularly the Northeast, sweltered under record breaking highs while the western third fared under mild and even cool temperatures.

PRECIPITATION: After closing out the week on a stormy note, the weather on Monday and Tuesday lost most of its punch. Any action there was centered around the Ohio Valley where a cold front triggered thunderstorms from New York to Indiana. A low pressure system hovered over the Gulf of Mexico raising thundershowers in the South Atlantic and Gulf Coast States. Showers also developed from western Montana into Arizona and even spilled over into the Rockies and Intermountain regions. South of a stationary front, high humidity blanketed the southeast quarter of the Nation. Meanwhile, north of the front, more comfortable conditions prevailed from the Great Lakes to the North Atlantic coast regions. Wednesday's weather, however, livened up a bit. The gulf depression travelled into southern Mississippi distributing thunderstorms along the gulf and South Atlantic coasts. Northwest Florida seemed to get more than its share, heavy rains soaked Milton with 4.5 inches in only 6 hours. Elsewhere, a high pressure system kept the northeast quarter of the Nation sunny, but light winds forced parts of New York, Michigan, Maryland, Ohio, and Virginia to issue air stagnation advisories. Moving at a slow pace, the gulf storm center on Thursday spread into Mississippi, Alabama, and Louisiana. Meanwhile, a slow moving cold front touched off scattered showers and thundershowers across parts of the north, the central Plains and northern Rockies. Things weren't as bright as they seemed in the sunny northeast quarter of the Nation as air stagnation advisories remained in effect from Virginia to lower Michigan. On Friday the storm center weakened as it drifted across Mississippi into southeast Arkansas. Scattered rains persisted over already soggy portions of the Southeast and northwest Florida battled extensive lowland flooding. Saturday delivered unwanted rains to the saturated gulf States and left sections of the parched Plains begging for moisture. Diminishing rains only teased the middle Mississippi Valley and eastern Kansas as they drifted across the Corn Belt. Hazy skies in the Northeast called for more air stagnation alerts. Showers and thunderstorms moving from the West on Sunday began to push stagnant air slowly towards the Atlantic. Elsewhere, fair skies dominated the western half of the Nation into the upper Mississippi.

TEMPERATURE: In the week's weather review, the temperature drew the most attention as records were broken or tied in many parts of the Nation. Hot weather made news in the Plains as the mercury in some spots rested at or above the 100 degree mark and stayed in the 90's elsewhere. Thunderstorms cooled some areas at the beginning of the week but relief was only temporary. Other areas, however, couldn't even look forward to cooler evenings. Tuesday's

1 a.m. reading in Mobridge, South Dakota, held at 89 degrees. In contrast, the Northwest registered temperatures in the 50's as did the eastern Great Lakes and northern New England areas. High humidity added to the problems of the already warm southeast quarter of the Nation. The Plains and upper Midwest had the same complaint, it was hot. At midweek, early morning lows in the 70's reigned over the Plains, Mississippi Valley, and South. Duluth, Minnesota, 70 degrees, set a record for the highest minimum for the date. In the northwest United States, cloudy skies trailed a cold front holding afternoon temperatures in the 50's. Nighttime temperatures dropped considerably in parts of the Northwest and in some spots of Nevada and Oregon the mercury even dipped into the 30's. Boise, Idaho, scored a record low Thursday with a reading of 44 degrees. Friday was a day for extremes. Marquette, Michigan, broke its record high of 93 degrees and Pocatello, Idaho, dropped to a record breaking low in the morning of 44 degrees. Unseasonably hot weather in the northeast tightened its grip as the week progressed. For Alpena, Michigan, Friday was the fourth consecutive day that daily record temperatures had been broken or tied. Afternoon temperatures reached into the 100's in Pennsylvania, and Maine sweltered under its most severe heat wave in over 25 years. Fair weather and mild temperatures in the western third of the Nation made that area the envy of the eastern third where conditions were warm to hot, humid, and hazy. Boston experienced its warmest night in over 100 years with an early morning low on Saturday of 83 degrees. Record highs for the day were pinned on San Francisco, 89 degrees, and Muskegon, Michigan, 92 degrees. And the heat went on. More daily record highs set for Saturday in the New England areas: Hartford, Connecticut, 101 degrees and Portland, Maine, 103 degrees. Records were still being set from North Carolina to Vermont, but temperatures finally began their slow descent on Sunday. A cold front fanned Maine and parts of New Hampshire, and reached into Massachusetts lowering temperatures to the 70's. Nearby, however, in Philadelphia, 98 degrees hit a record high for the third day in a row. Elsewhere, a summer cold front chilled Minnesota to the mid 50's. The East still simmered but temperatures also dipped in the central Plains.

Estimates of Damage by the European Corn Borer
to Grain Corn in the United States in 1974

Compiled by the New Pest Detection and Survey Staff
PPQ, APHIS

The loss to grain corn attributed to the European corn borer (Ostrinia nubilalis (Hubner)) in 1974 is estimated to be about 42,529,000 bushels in 15 corn-producing States. In these States the loss was 1.06 percent of production. This loss is about 0.9 percent of the total national crop estimated at 4,651,167,000 bushels 1. The value of the loss, based on the season average prices received by farmers for corn 2, is $148,865,000. These loss estimates are only for the States shown in Table 1, and are based on the counties or districts surveyed during the fall of 1974 within the States 3.

Table 1 is a composite of State and Federal estimates. These estimates were prepared by using production data 1, and prices received 2, released by the Statistical Reporting Service. The basis for the loss estimates was determined by the survey of European corn borer populations during the fall of 1974 3. The index of 3 percent loss per borer per plant was used to compute the loss in bushels.

Estimated losses to grain corn for the past 23 years in States where the fall abundance survey was conducted are as follows:

1974	42,599,000	Bushels	$148,865,000
1973	139,395,000	"	329,272,000
1972	65,821,000	"	83,367,000
1971	305,545,000	"	319,777,000
1970	195,885,000	"	250,178,000
1969	163,501,000	"	182,509,000
1968	154,554,000	"	161,287,000
1967	59,661,000	"	63,837,000
1966	121,236,000	"	155,876,000
1965	54,318,100	"	59,374,160
1964	87,116,000	"	97,478,000
1963	120,647,000	"	127,838,000
1962	88,245,000	"	93,695,000
1961	65,044,000	"	68,998,000
1960	102,991,000	"	96,085,000
1959	67,763,000	"	71,979,000
1958	100,699,000	"	98,434,000
1957	180,897,000	"	158,841,000
1956	97,971,000	"	119,535,000
1955	155,355,000	"	182,579,000
1954	191,614,000	"	261,415,000
1953	90,000,000	"	125,466,000
1952	53,270,000	"	77,205,000

1 Crop Production, 1974 Annual Summary, Crop Reporting Board, Statistical Reporting Service, USDA, January 16, 1975.

2 Crop Values, Season Average Prices Received by Farmers and Value of Production 1972, 1973, and 1974, Crop Reporting Board, Statistical Reporting Service, USDA, January 16, 1975.

3/ Cooperative Economic Insect Report 25(7):69-76, 1975.

Table 1. Estimates of Damage by the European Corn Borer to Corn Grown for Grain in the United States in 1974

State	Districts Included 1	Estimated Data: Total State Production	Value Per Bushel	Value of Production	Loss of Crop	
	Number	1,000 Bu.	Dollars	$1,000	1,000 Bu.	$1,000
Delaware	1	12,416	3.50	43,456	1,257	4,399
Illinois	9	830,830	3.60	2,990,988	8,082	29,094
Indiana	12	387,660	3.50	1,356,810	3,036	10,625
Iowa	12	948,000	3.50	3,318,000	5,746	20,110
Kansas	9	131,480	3.45	453,606	966	3,333
Kentucky	1	95,200	3.50	333,200	189	663
Michigan	5	110,410	3.45	380,915	2,889	9,966
Minnesota	7	359,900	3.45	1,241,655	1,010	3,484
Missouri	8	149,050	3.50	521,675	4,949	17,321
Nebraska	5	380,800	3.45	1,313,760	9,074	31,305
North Carolina	4	116,180	3.40	395,012	1,192	4,052
North Dakota	1	7,301	3.45	25,188	30	103
Ohio	5	266,450	3.55	945,898	1,657	5,883
South Dakota	5	76,890	3.45	265,271	1,998	6,893
Wisconsin	9	154,360	3.60	555,696	454	1,634
Totals		4,026,927		14,141,130	42,529	148,865

1 Cooperative Economic Insect Report 25(7):69-76, 1975.

Prepared by New Pest Detection and Survey Staff

U.S. Dept. Agr. Coop. Econ. Ins. Rpt. 25(32):667-668, 1975

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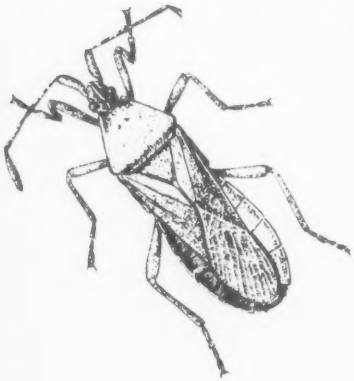
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